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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/679,771 | 10/06/2003 | Byung-Woong Han | 21C-0067 | 8547 |
| <div>7590 CANTOR COLBURN LLP 55 Griffin Road South Bloomfield, CT 06002</div> | | | <div>EXAMINER KIM, RICHARD H</div> | |
| | | | <div>ART UNIT 2871</div> | <div>PAPER NUMBER</div> |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/679,771 | Applicant(s) HAN ET AL. | |
| | Examiner Richard H. Kim | Art Unit 2871 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8-19 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) 8, 9, 12, 13, 15 and 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10, 11, 14, 16-19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>2/7/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 10, 11, 14, 16-19 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 5,600,462) in view of Kojima (US 6,011,601).

Referring to claim 1, Suzuki et al. disclose a device comprising a light incident surface for receiving the light; and a light emission surface for emitting the light incident on the light incident surface, wherein the light emission surface includes at least one light concentration unit which has at least two inclined surfaces on which the light is incident and refracted (Fig. 3, ref. 9), wherein a peak angle between the two inclined surfaces is in a range from about 90° to 120° (col. 5, lines 24-33). However, the reference does not disclose that the refractive index of the prism sheet is in a range from about 1.41 to about 1.49.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the refractive index of the prism sheet to be in a range from about 1.41 to about 1.49 since "...a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties" MPEP 2.44.05. Suzuki et al. disclose a refractive index of 1.50 (col. 4, line 24).

Art Unit: 2871

Furthermore, the reference fails to disclose that the light incident surface is substantially smooth.

Kojima et al. discloses a device wherein the light incident surface is substantially smooth (Fig. 2, ref. 10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the light incident surface to be substantially smooth. Suzuki et al. discloses that the light incident surface is rough as a means to diffuse the light (col. 4, lines 27-33). Kojima et al. discloses a separate diffuser plate to diffuse incident light (col. 3, lines 26-29), thereby providing the same function as having a rough surface of the prism by employing a smooth incident surface of the prism sheet with a separate diffusing plate. Therefore, employing a smooth incident surface as opposed to a rough incident surface would have been obvious due to art-recognized equivalence

Referring to claims 2-4, Suzuki et al. discloses a device wherein the light emission surface includes a plurality of the light concentrate units each having at least two included surfaces and the peak angle; wherein the light concentrate units each have a shape of a prism column and are arranged parallel with each other in a longitudinal direction of the light concentrate units, wherein one of the two inclined surfaces forms a first angle with respect to the light incident surface and the other of the two inclined surfaces forms a second angle with respect to the light incident surface, the first and second angles are equal to each other (Fig. 3, ref. 9; Fig. 4, ref. 9).

Referring to claims 10 and 11, Suzuki et al. disclose the device previously recited, but fails to disclose that the light emission angle is in a arranged from about 5.86° to about 26.23° ,

Art Unit: 2871

and that the inclined surfaces are configured such that light incident on one of the inclined surfaces are travels in accordance with the claimed equations 1 to 3.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the light emission angle to be in a arranged from about 5.86° to about 26.23° , and that the inclined surfaces are configured such that light incident on one of the inclined surfaces are travels in accordance with the claimed equations 1 to 3 since Suzuki et al. disclose the claimed structural limitations of the device. Having the light behave in accordance with the structural limitations of the device would naturally occur and is therefore obvious.

Referring to claim 14, Suzuki et al. disclose that the device further includes a body in which the light incident on the surface travels toward the light emission surface, wherein the body is integrally formed with the light incident surface and the light emission surface (Fig. 3, ref. 9).

Referring to claim 16, Suzuki et al. disclose that the prism sheet is made of polycarbonate (col. 4, lines 25-26).

Referring to claim 17, Suzuki et al. disclose the device previously recited, and further discloses that the peak angle is in a range from about 110° to 120° (col. 5, lines 33-35). As to the limitation that the refraction index varies in proportional to a value of the peak angle, it has been recognized that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product by itself. The patentabilty of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim in unpatentable even though the prior art product was made by a different process. MPEP 2113.

Referring to claim 18, Suzuki et al. disclose a device comprising a lamp assembly having a plurality of lamps (Fig. 1, ref. 7) for generating light, a prism sheet (9) for adjusting paths of the light, the prism sheet including: a light incident surface for receiving light; and a light emission surface for emitting light incident on the light incident surface, wherein the light emission surface includes at least one light concentrate unit which has at least to inclined surfaces on which the light is incident and refracted, wherein a peak angle between the two inclined surfaces is in a range from about 90° to about 120° (col. 5, lines 33-35), wherein the lamps (7) are disposed at a side of the diffusing surface (10) opposite to a side at which the prism sheet (10) is disposed. As shown in Figure 1, the lamps are disposed behind the diffusing surface and the prism sheet is disposed in front of the diffusing surface. Therefore, the lamps and the prism sheet are disposed on opposite sides of the diffusing surface. However, the reference fails to disclose a diffusion plate for diffusing light.

Kojima discloses a diffusing plate (25) for diffusing light.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a light diffusing plate. Suzuki et al. discloses that the light incident surface is rough as a means to diffuse the light (col. 4, lines 27-33). Kojima et al. discloses a separate diffuser plate to diffuse incident light (col. 3, lines 26-29), thereby providing the same function as having a rough surface of the prism by employing a light diffusing plate. Therefore, employing a light diffusing plate as opposed to a rough incident surface would have been obvious due to art-recognized equivalence.

Furthermore, the reference does not disclose that the refractive index of the prism sheet is in a range from about 1.41 to about 1.49.

Art Unit: 2871

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the refractive index of the prism sheet to be in a range from about 1.41 to about 1.49 since "...a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties" MPEP 2.44.05. Suzuki et al. disclose a refractive index of 1.50 (col. 4, line 24).

Referring to claim 19, Suzuki et al. disclose a device wherein the light emission surface includes a plurality of the light concentrate units each having at least two included surfaces and the peak angle; wherein the light concentrate units each have a shape of a prism column and are arranged parallel with each other in a longitudinal direction of the light concentrate units (Fig. 4).

Referring to claim 21, Suzuki et al. discloses a device wherein the lamp assembly has a plurality of lamps arranged parallel with each other in a selected direction (Fig. 1, ref. 7).

Response to Arguments

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2871

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Application/Control Number: 10/679,771

Page 8

Art Unit: 2871

Richard H Kim
Examiner
Art Unit 2871

RHK



David Nelms
Supervisory Patent Examiner
Technology Center 2800